

# VILLASENORIA (ASTERACEAE: SENECEONEAE): A NEW GENUS AND COMBINATION FROM MEXICO

BONNIE L. CLARK<sup>1</sup>

*Herbarium, Division of Biology  
Kansas State University  
Manhattan, KS 66506-4901, U.S.A.*

## ABSTRACT

A new genus, *Villasenoria* (Asteraceae: Senecioneae), is described and a new combination, *Villasenoria orcuttii* (Greenm.) B.L. Clark, comb. nov., is proposed.

## RESUMEN

Se describe un nuevo género, *Villasenoria* (Asteraceae: Senecioneae), y se propone una nueva combinación, *Villasenoria orcuttii* (Greenm.) B.L. Clark, comb. nov.

During the course of revising the traditional section *Terminales* Greenm. of the genus *Senecio* (Clark 1996), I had the opportunity to see an undercollected entity originally described by Greenman (1912) as *Senecio orcuttii*. This entity was subsequently included in the segregate genus *Telanthophora* by Robinson & Brettell (1974). With the collection of more specimens and better habitat information, it became evident that the entity is sharply distinct from the rest of *Telanthophora* and other groups of *Senecio*, s.l., and that it should be placed in its own genus. *Villasenoria* is described herein as a new genus to accommodate *Senecio* (*Telanthophora*) *orcuttii*.

The plants of the traditional section *Terminales* are shrubs and small trees mostly of middle elevations and the highlands of Mexico and Central America. As conceived by Greenman (1901), this section is distinguished by plants with stems that are abruptly contracted or foreshortened just below the terminal capitulescences, which are pedunculate clusters of corymbiform cymes. Studies by Robinson and Brettell in the 1970s led them to suggest that the Mexican and Central American species of the super-genus *Senecio* should be split into several segregate genera, and *Senecio* sect. *Terminales* Greenm. was split into two genera, *Pittocaulon* and *Telanthophora* (Robinson & Brettell 1973, 1974). Though slow to receive support in the literature, recent synthetic publications, e.g., Jeffrey (1992), Bremer (1994), and Barkley et al. (1996), have adopted these segregate genera.

*Senecio orcuttii* is an anomaly in either *Telanthophora* or *Pittocaulon* in that it has large principal leaves (to 7 dm long) that are pinnately compound, and the stems merely taper to the capitulescence. Moreover, the capitulescence

<sup>1</sup>Present Address: 8201 Hauser Drive, Lenexa, KS 66212-2542, U.S.A.

is a loose, elongate cluster of numerous heads, without the distinctive corymbiform or dome-shaped aspect of the capitulescences of *Telantophora* and *Pittocaulon*. The species is known only from limestone karst outcrops in rainforests from 100 to nearly 2000 m elevation in Chiapas, Oaxaca, and Veracruz, Mexico. On the other hand, species of *Pittocaulon* occur in seasonally dry scrublands of central and southern Mexico at 300–3250 m, while species of *Telantophora* occur in cloud forests or mixed hardwood forests from central Mexico southward to Honduras, at 600–5000 m.

*Pittocaulon*, *Telantophora*, and the new genus *Villasenorina* are separated by the following key:

#### KEY TO GENERA

1. Leaves pinnately compound, the largest to 7 dm long overall; capitulescences elongate and neither corymbiform nor dome-shaped; plants single-stemmed, the stems tapering to the capitulescences; plants tree-like, achene surfaces papillate. .... *Villasenorina*
1. Leaves variously entire to lobed but not compound, rarely more than 4 dm long overall; capitulescences of terminal, dome-shaped corymbiform cymes; plants single stemmed or multi-branched, with stems abruptly foreshortened below the capitulescence; shrubs or small trees; achene surfaces smooth, glabrous.
  2. Leaves palmately veined, seasonally deciduous, mostly absent at flowering time; stems rubbery and subsucculent, with subepidermal resin ducts; pith chambered. .... *Pittocaulon*
  2. Leaves pinnately veined, persistent; stems woody, without evident subepidermal resin ducts; pith continuous. .... *Telantophora*

***Villasenorina* B.L. Clark, gen. nov.** TYPE SPECIES: *Villasenorina ocuttii* (Greenm.) B.L. Clark.

Herbae lignescentes, caule e radicibus fasciculatis fibrosis emisso. Apicem versus in inflorescentiam terminalem, corymbiformem vel paniculatum abeunt. Folia pinnatim decomposita, infra inflorescentiam conferta. Capitula numerosa radiata; phyllaria (plus/minus) 8, inter se aequilonga, biseriata; flosculi quoad structuram microscopicam cum iis subtribui Tussalagineorum tribui Senecionearum congrui, superficie stigmatica trans anteriorem styli ramulorum faciem continua; antherarum collum parum incrassatum sed cellulae basi haud auctae.

Plants erect, to 3.5 m tall, stems single, arising from a cluster of fibrous roots; leaves present just below the capitulescence, lower leaves deciduous. Stems terete with solid pith, glabrous but with circular to horseshoe-shaped leaf scars; bases of recently dropped leaves persistent; stems tapering to the capitulescence and not conspicuously foreshortened. Leaves alternate, pinnately compound, petiolate; blades oblong to ovate in outline, leaflets ovate or obovate to broadly lanceolate; adaxial surface lightly stromose-papillate to lightly pubescent. Capitulescences terminal, open-paniculiform to loosely corymbiform clusters of capitula, peduncles multibranching, with scattered linear-subulate bracts. Capitula numerous, radiate. Involucre narrowly campanulate to cylindrical; receptacle flat, naked or but shallowly alveolate, fistulose;

phyllaries 8(–9), biseriate, in an inner and an outer series, linear-lanceolate, slightly swollen or thickened at the base, inner phyllaries with scarious margins; calyculate bracts few and inconspicuous, linear. Ray florets 2–5, ligulate, pistillate, corollas yellow, tube cylindrical, lamina apex with 3 minute teeth, veins unbranched. Disk florets 16–23, corollas yellow, gradually to sometimes abruptly expanded upward, lobes 5. Anther bases sagittate, anther collars slightly swollen but the cells not basally dilated; endothelial cell walls with radial thickenings. Styles with stigmatic areas entire or weakly transitional, with morphologically distinctive cells in triangles at the bases of the stigmatic areas; apices unappendaged, truncate to conical, with fringing papillae of uniform length; stylopodia free. Achenes cylindrical, glabrous but with papillate projections; epidermal cells of pericarp oblong in surface view; carpodia of 5–17 rows of thickened quadrate cells, margins regular to irregular; ovary walls with heterohexagonal and occasionally with acetose crystals. Pappus of numerous white, uniform, capillary hairs. Chromosome number unknown.

*Etymology*.—The genus name honors Dr. José Luis Villaseñor, a dedicated botanist of the Instituto de Biología, Universidad Nacional Autónoma de México, in Mexico City.

**Villasenorina orcuttii** (Greenm.) B.L. Clark, comb. nov. *Senecio orcuttii* Greenm.

Field Mus. Bot. 2:350. 1912. *Telanthophora orcuttii* (Greenm.) H. Rob. & Brettell, Phytologia 27:428. 1974. TYPE: MEXICO. VERACRUZ: Omealca, near Córdoba, on limestone cliffs, 6 Apr 1910, C.R. Orcutt 3150 (HOLOTYPE: F!; ISOTYPE: MO!).

Additional specimens examined: MEXICO: Chiapas: de Tuxtla G. a Montecristo (N Tuxtla G.), 17 Nov 1949, F. Miranda 5695 (MEXU). Oaxaca: San Felipe Usila, en cerro Casa de San Felipe de Usila, tipo veg. Selva alta perennifolia, suelo negro rocoso, elev. 250 m, 17 Oct 1989, J.I. Calzada 14977 (KSC); 5 km N of Huatla de Jiménez on road to Santa María Chilchotla, on steep slopes of calcareous rock, in rainforest remains along edge of coffee plantations, 18°09'N, 96°52'W, elev. 1200 m, 25 Mar 1992, B.L. Clark, A. Salinas & J. I. Calzada 53 (KSC, MEXU); 5 km N of Huatla de Jiménez on road to Santa María Chilchotla, on steep slopes of calcareous rock, in rainforest remains along edge of coffee plantations, 18°09'N, 96°52'W, elev. 1200 m, 16 Mar 1994, B.L. Clark & A. Campos V. 148 (KSC, MEXU), 149 (KSC, MEXU), 151 (KSC, MEXU); along road from Teotitlán del Camino to Chilchot'a, 4.4 mi beyond turn-off to Huatla de Jiménez, steep slopes with huge boulders, a few native trees persisting in a coffee plantation, elev. 1980 m, 23 Feb 1979, T.B. Croat 48378 (KSC, MO); Chilchotla, Huatla de Jiménez, bosque de encinos, suelo pedregoso, pardo-oscuro, 1200 msnm, 6 Apr 1975, R. Hernández 2105 (MEXU). Veracruz: Axocuapán, selva media subperennifolia, elev. 450 m, 30 Dec 1988, M. Cházaro. L. Robles. & J.L. Tapia 5793 (WIS); Jesús Carranza, km 6 del Camino Cedillo-Río Alegre, selva alta perennifolia, primaria y secundaria, suelo café claro arcilloso rocoso, 17°10'N, 94°40'W, elev. 150 m, 18 Jan 1975, B. Dorantes 3905 (MEXU); Hidalgotitlán, km 3 del Camino Cedillo-La Laguna, selva alta perennifolia, primaria, suelo café claro arcilloso rocoso, elev. 150 m, 19 Jan 1975, B. Dorantes 3971 (MEXU); Atoyac, 13 May 1937, E. Matuda 1394 (MEXU, MICH); Hidalgotitlán, 3 km SW of Campamento La Laguna, selva alta perennifolia, original forest on isolated small fills of extreme limestone karst, surrounded

by flat pastures with scattered remnant trees, 17°16'N, 94°32'W, elev. 100 m, 6 Mar 1984, *M. Nee 30011* (KSC, MO, NY); Motzorongo, mountain side, 11 Feb 1892, *J.G. Smith 135* (MO); Hidalgoriélán, 300 m W Campamento Hermanos Cedillo, parte alta cantiles Río Solostichil, selva alta perennifolia, primaria, suelo cárstico, sobre suelo rocoso por completo, 17°16'N, 94°36'W, elev. 150 m, 1 Nov 1975, *B. Vázquez 1632* (MEXU); Coetzala, por el camino a Ceotzaporitla, selva alta subperennifolia, secundaria, suelo rojo amarillento con rocas aflorantes, 25 Apr 1976, *V. Vázquez 400* (MEXU); Córdoba, San Rafael, bosque de encino en ladera de cerro, elev. 900 m, 28 Mar 1979, *F. Ventura 15949* (MEXU); Hidalgotitlán, 0.6 km al E del Poblado 7, sobre camino a La Raya, afloramiento kárstica con selva perturbada de *Spondias*, *Barsea*, *Dialium*, etc., rodeada por acahual, 17°19'N, 94°31'20" W, elev. 130 m, 31 Mar 1981, *T. Wendt, et al. 3122* (MEXU); Minantlán, 13.7 km al E de La Laguna, sobre la terracería a Uxpanapa, luego 6.2 km al N sobre el camino nuevo (no completo) a Belisario Domínguez, selva mediana con *Dialium*, en área kárstica con afloramientos de piedra, 17°19'30"N, 94°23'W, elev. 130 m, 11 Feb 1981, *T. Wendt, A. Villalobos, & D. Olmstead 2838* (MEXU).

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